

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

VITAWORKS IP, LLC and VITAWORKS,
LLC,

Plaintiffs,

v.

C.A. No. 19-2259-GBW

GLANBIA NUTRITIONALS (NA), INC.,
PRINOVA US LLC, and QIANJIANG
YONGAN PHARMACEUTICAL CO. LTD.,

Defendants.

Jack B. Blumenfeld, Megan E. Dellinger, MORRIS, NICHOLS, ARSHT & TUNNELL LLP,
Wilmington, Delaware; Keith R. Hummel, Sharonmoyee Goswami, CRAVATH, SWAINE &
MOORE LLP, New York, New York

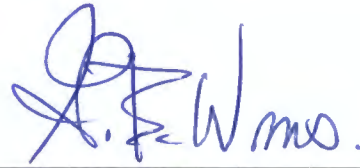
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MEMORANDUM OPINION

January 23, 2023
Wilmington, Delaware



GREGORY B. WILLIAMS
UNITED STATES DISTRICT JUDGE

Plaintiffs Vitaworks IP, LLC and Vitaworks, LLC (collectively, “Vitaworks”) allege that Defendants Glanbia Nutritionals (NA), Inc. (“Glanbia”), Qianjiang Yongan Pharmaceutical Co. Ltd. (“QYP”), and Prinova US LLC (“Prinova”) (collectively, “Defendants”) infringe U.S. Patent Nos. 9,745,258 (the “’258 patent”); 9,815,778 (the “’778 patent”); 9,926,265 (the “’265 patent”); 10,040,755 (the “’755 patent”); and 10,961,183 (the “’183 patent”) (collectively, the “asserted patents”). D.I. 80 ¶ 1; D.I. 81 ¶ 1.¹ The asserted patents all claim improved methods for the manufacture of taurine. D.I. 80 ¶ 2; D.I. 81 ¶ 2. Taurine is an important additive to infant formula, pet food, and energy drinks. *See id.* It has many “beneficial pharmacological effects,” like detoxification, fatigue-relief, and nourishing and tonifying effects. D.I. 110, Ex. A (the ’258 patent) at 1:19-21.

Before the Court is the issue of claim construction of multiple terms in the asserted patents. The Court has considered the parties’ joint claim construction brief and the accompanying appendix. D.I. 137; D.I. 138-1. The Court held a *Markman* hearing on January 11, 2023 (the “Hearing”). D.I. 173.

I. LEGAL STANDARDS

“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted); *see also Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) (“A claim in a patent provides

¹ The Court writes for the benefit of the parties and assumes their familiarity with this action.

the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention”). “[T]here is no magic formula or catechism for conducting claim construction.” *Phillips*, 415 F.3d at 1324. The Court is free to attach the appropriate weight to appropriate sources “in light of the statutes and policies that inform patent law.” *Id.* The ultimate question of the proper construction of a patent is a question of law, although subsidiary fact-finding is sometimes necessary. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)).

“The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.” *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1312–13). A person of ordinary skill in the art “is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313.

“When construing claim terms, the court first looks to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.” *Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013). “Other claims of the patent in question, both asserted and unasserted, can . . . be valuable” in discerning the meaning of a disputed claim term because “claim terms are normally used consistently throughout the patent,” and so, “the usage of a term in one claim can often illuminate the meaning of the same term in other claims.” *Phillips*, 415 F.3d at 1314. In addition, “[d]ifferences among claims can also be a useful guide[.]” *Id.* For example, “the

presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1314-15.

In addition to the claim, the Court should analyze the specification, which “is always highly relevant to the claim construction analysis ... [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)). And, the specification “is not a substitute for, nor can it be used to rewrite, the chosen claim language.” *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

The Court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman*, 52 F.3d at 980. The prosecution history “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution[.]” *Phillips*, 415 F.3d at 1317.

In some cases, the Court “will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 135 S. Ct. at 841. Extrinsic evidence “consists of all evidence external to the patent and prosecution history,

including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Overall, while extrinsic evidence may be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (internal quotation marks and citations omitted).

II. AGREED-UPON TERMS

The parties agreed upon the construction of five claim terms. First, “alkali metals” in claim 3 of the ’258 patent, claim 9 of the ’778 patent, and claim 8 of the ’755 patent means “alkali cations, such as lithium, sodium, and potassium.” D.I. 137 at 2. Second, “ammonium isethionate” in claim 1 of the ’258 patent, claims 1 and 8 of the ’778 patent, and claims 1, and 4-6 of the ’265 patent means “a solution of ammonium isethionate or solid ammonium isethionate.” *Id.* Third, “ammonium hydroxide” in claim 1 of the ’778 patent means “aqueous solution of ammonia.” *Id.* Fourth, “art acid” in claim 1 of the ’778 patent means “an acid.” *Id.* Fifth, “a process” in claim 1 of the ’258 patent means “the process recited in the claim performed in a discontinuous, semicontinuous, or continuous manner.” *Id.* The Court will adopt the agreed-upon constructions.

III. DISPUTED TERMS

1. The “adding ammonium isethionate” terms

Claim Term	Plaintiff Vitaworks’ Construction	Defendants’ Construction	The Court’s Construction
Adding ammonium isethionate to a solution of . . . to yield alkali isethionate and ammonium taurinate (’258 patent at claims 1-3)	Plain and ordinary meaning	Producing alkali isethionate and ammonium taurinate by charging ammonium isethionate, as a starting material, into a solution containing . . .	Plain and ordinary meaning

Adding ammonium isethionate to a solution of (’778 patent at claims 1, 3-6 and 8-9)	Plain and ordinary meaning	Charging ammonium isethionate, as a starting material, into a solution containing	Plain and ordinary meaning
Adding ammonium isethionate to the solution of (a) before or after the removal of ammonia to yield alkali isethionate and ammonium taurinate (’265 patent claims at 1-3, 5-9)	Plain and ordinary meaning	Producing alkali isethionate and ammonium taurinate by charging ammonium isethionate, as a starting material, into the solution produced in step (a) before or after the removal of ammonia from the solution produced in step (a)	Plain and ordinary meaning

Vitaworks argues that the “adding ammonium isethionate” terms should be afforded their plain and ordinary meaning. Defendants argue that the terms should be construed to signify that ammonium isethionate “is a reactant this is fed into the solution, not generated *in situ* as an intermediate.” D.I. 137 at 11.²

“It is axiomatic that we will not narrow a claim term beyond its plain and ordinary meaning unless there is support for the limitation in the words of the claim, the specification, or the prosecution history.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1333 (Fed. Cir. 2013) (citations omitted). “If the intrinsic record supports several definitions of a term, the term may be construed to encompass all such consistent meanings.” *Wasica Fin. GmbH v. Cont’l*

² Defendants provided the following definition for “*in situ*” generation during the Hearing: “*in situ*” generation “refers to the formation of a species in a reaction solution as a result of other reactions occurring in that solution.” D.I. 173 at 32:14-18 (citing slide 5 of Defendants’ Claim Construction Hearing Presentation).

Auto. Sys., Inc., 853 F.3d 1272, 1281 (Fed. Cir. 2017) (citation omitted). “Therefore, absent a clear disavowal or alternative lexicography by a patentee, he or she ‘is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning.’” *Id.* at 1282 (quoting *Thorner*, 669 F.3d at 1367).

The Court begins its analysis with the language of the claim itself. Use of the disputed term in claim 1 of the ’258 patent is representative:

1. A process for producing taurine from alkali taurinate or a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate, comprising:
 - (a) adding ammonium isethionate to a solution of alkali taurinate or a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate to yield alkali isethionate and ammonium taurinate;
 - (b) decomposing ammonium taurinate by heating and removing ammonia to yield taurine;
 - (c) separating taurine by means of solid-liquid separation.

D.I. 110, Ex. A (the ’258 patent) at claim 1.³ As Vitaworks argues, the plain and ordinary meaning of the “adding ammonium isethionate” terms mean to combine ammonium isethionate with a solution of the taurinates recited in the asserted patents to yield alkali isethionate and ammonium taurinate. D.I. 137 at 8; D.I. 173 at 38:9-13. The written description also supports this construction. *See, e.g.*, D.I. 100, Ex. A (the ’258 patent) at 3:19-20, Ex. B (the ’778 patent) at 3:24-25, Ex. C (the ’265 patent) at 3:31-32 (“After ammonium isethionate is added to the ammonolysis solution . . .”); D.I. 110, Ex. A (the ’258 patent) at 3:64-66, Ex. B (the ’778 patent)

³ The ’265 and ’778 patents teach combining ammonium isethionate with “a solution of a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate.” D.I. 110, Ex. C (the ’265 patent) at claim 1(a); D.I. 110, Ex. B (the ’778 patent) at claim 1(a).

at 4:7-9 (“After the ammonolysis reaction, ammonium isethionate is added to the ammonolysis solution to react with alkali taurinates.”).

Defendants argue that the “adding ammonium isethionate” terms require ammonium isethionate to be a “starting material” because it is used throughout the asserted patents to describe ammonium isethionate. D.I. 137 at 12-13. Defendants contend that, in the two instances where ammonium isethionate is described as a “starting material,” they were made in the context of describing “the present invention” and “the invention.” See D.I. 110, Ex. A (the ’258 patent) at 3:8-10, Ex. C (the ’265 patent) at 3:21-24, Ex. B (the ’778 patent) at 3:13-16 (“[t]he starting material, ammonium isethionate, can be readily and economically produced by reacting ethylene oxide with ammonium bisulfite.”); D.I. 110, Ex. A (the ’258 patent) at 3:37-39, Ex. C (the ’265 patent) at 3:50-53, Ex. B (the ’778 patent) at 3:46-48 (“[t]he starting material, ammonium isethionate is produced by reacting ethylene oxide with ammonium bisulfite according to [the provided equation].”); see also D.I. 137 at 12-16. While it is true that “[w]hen a patent . . . describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention,” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (citations omitted), the Court disagrees with Defendants that the phrase “starting material” was used in the context of describing the “present invention” or the “invention.”

While not dispositive, the phrase “starting material” does not appear in the same paragraph as the phrase “the present invention.” See D.I. 110, Ex. A (the ’258 patent) at 3:3-12, 33-40; Ex. B (the ’778 patent) at 3:4-17, 3:42-50; Ex. C (the ’265 patent) at 3:11-24, 3:46-55. The paragraph with the phrase “the present invention” explains the object and scope of the present invention—to produce taurine from ammonium isethionate with a greater yield and lower waste than the prior art methodology. See, e.g., D.I. 110, Ex. A (the ’258 patent) at 3:3-7 (“It is another object of the

present invention to disclose a process for the production of taurine from ammonium isethionate in a high overall yield (i.e., greater than 90% to nearly quantitative) without generating any inorganic salt as byproduct.”). The next paragraph states, “[t]he starting material, ammonium isethionate, can be readily and economically produced by reacting ethylene oxide with ammonium bisulfite according to prior arts, e.g., U.S. Pat. No. 5,646,320 and U.S. Pat. No. 5,739,365.” *Id.* at 8-11. Defendants contend the second paragraph provides “additional context regarding the present invention” and cites to *GLG Farms LLC v. Brandt Agric. Prods., Ltd.*, 741 F. App’x 794 (Fed. Cir. 2018), which found a statement following a statement about the “present invention” limited the scope of the patent even though the two statements appeared in different paragraphs. D.I. 137 at 25.

The Court disagrees with Defendants and finds the *GLG* case distinguishable. In *GLG*, the specification at issue stated, “[t]he arrangement *of the present invention* is shown in Figs. 2, 3 and 4.” 741 F. App’x at 798 (citations omitted) (emphasis in original). The next paragraph states, “[i]n *this* arrangement at a position *between* the end walls there is provided a hopper drive assembly for moving the hopper in a direction parallel to the end walls and the wheels thereon.” *Id.* (citations omitted) (emphasis in original). The second statement referred back to the first statement which included the phrase “the present invention.” That is not the case here. It is improper to read a limitation of an embodiment into a claim. *Phillips*, 415 F.3d at 1323. Nowhere in the asserted patents do they state that ammonium isethionate must be a starting material or that it be generated outside of and “charged into” the ammonolysis solution. In fact, “charge” or variations of the word do not appear in any of the asserted patents and the Court is not convinced by any of Defendants’ arguments to change “adding” to “charging.”

Thus, for the reasons stated above, the Court will apply the plain and ordinary meaning, which is the default in claim construction. *Phillips*, 415 F.3d at 1316.

2. The “decomposing ammonium taurinate” terms

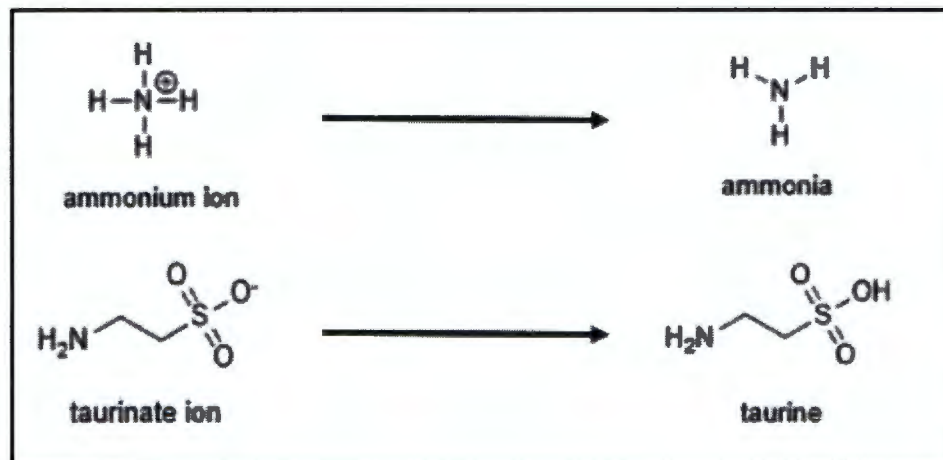
Claim Term	Plaintiff Vitaworks’ Construction	Defendants’ Construction	The Court’s Construction
Decomposing ammonium taurinate by heating and removing ammonia to yield taurine (’258 patent at claims 1-3)	heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and obtaining taurine by removing the ammonia	heating the intermediate ammonium taurinate to break it down into its constituent components ammonia and taurine, and obtaining taurine by removing the ammonia	heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and obtaining taurine by removing the ammonia
Decomposing ammonium taurinate by heating and removing ammonia (’265 patent at claims 1-3, 5-9)	heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and removing the ammonia	heating the intermediate ammonium taurinate to break it down into its constituent components ammonia and taurine, and removing the ammonia	heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and removing the ammonia

The parties’ dispute boils down to whether “decomposing ammonium taurinate by heating” means converting ammonium taurinate to ammonia and taurine, as Vitaworks contends, or breaking down ammonium taurinate into its constituent components ammonia and taurine, as Defendants contend.

Vitaworks argues that Defendants’ proposed construction is flawed because it fails to consider the fact that the ammonium isethionate is added to an aqueous solution. D.I. 137 at 30 (citing D.I. 110, Ex. A (the ’258 patent) 3:64-67, 5:35-40 (Example 1), Ex. C (the ’265 patent) at 4:11-17, 5:62-67 (Example 1)). The ammonium taurinate, while still in the solution, disassociates

into taurinate and ammonium ions.⁴ See D.I. 138-1, Ex. 3, Ralph H. Petrucci, et. al, General Chemistry: Principles and Modern Applications 143 (9th ed. 2006) (“Reactions in aqueous (water) solution are important because . . . in aqueous solutions, many substances are dissociated into ions”); see also D.I. 173 at 54:6-23. Then, the aqueous solution is heated and the taurinate and ammonium ions are converted into taurine and ammonia, respectively. D.I. 137 at 37; see also D.I. 173 at 54:15-23.

Defendants argue that ammonium taurinate is broken down into its constituent components—ammonia and taurine. D.I. 137 at 31-32. However, as explained above, ammonium taurinate in an aqueous solution does not break down into ammonia and taurine, rather it disassociates into taurinate and ammonium ions. These ions are different molecules, with different structures than taurine and ammonia as shown below.



⁴ Defendants do not appear to dispute this fact. See D.I. 137 at 31-35, 38-40.

D.I. 137 at 37. Critically, it is the heating process that converts the taurinate and ammonium ions into taurine and ammonia. Defendants' proposed construction fails to capture this intermediate step.⁵

For the reasons stated above, "decomposing ammonium taurinate by heating and removing ammonia to yield taurine" means "heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and obtaining taurine by removing the ammonia" and "decomposing ammonium taurinate by heating and removing ammonia" means "heating the intermediate ammonium taurinate to convert it to ammonia and taurine, and removing the ammonia."

3. "a process"

Claim Term	Plaintiff Vitaworks' Construction	Defendants' Construction	The Court's Construction
A process (⁷ 55 patent at claims 1, 3–8; ¹ 83 patent at claims 1, 4, 7–9)	The process recited in the claim performed in a discontinuous, semicontinuous, or continuous manner	A one-pot process	A one-pot process

The parties dispute whether the construction of "a process" is dictated by the doctrine of prosecution disclaimer.

"Under the doctrine of prosecution disclaimer, a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution." *Purdue Pharma L.P. v. Endo Pharms. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006). Prosecution disclaimer can arise

⁵ Vitaworks pointed out during the Hearing that Defendants seem to admit that ammonium taurinate is converted into other substances during the reaction. D.I. 173 at 54:1-5. Defendants wrote in their briefs, "[t]he parties agree that *ammonium taurinate*, as used in the claims, 'is an *intermediate product* of the reaction, i.e., a substance that is generated during the process and then *converted* into other substances[.]'" D.I. 137 at 31-32 (emphasis added).

from both claim amendments and arguments made to the United States Patent and Trademark Office (“PTO”). *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). The doctrine does not apply unless the disclaimer is “both clear and unmistakable to one of ordinary skill in the art.” *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007) (quotations omitted).

During prosecution of the ’183 patent, the Examiner rejected the claim language “[a] process for producing alkali taurinate from alkali isethionate in an overall molar yield of at least 85%” for failing to comply with 35 U.S.C. § 112. D.I. 138-1, Ex. 5, Prosecution History of the ’183 patent, November 13, 2020 Final Rejection. The Examiner wrote that a cyclic process was required to obtain the claimed yield percentage:

The resulting equilibrium contains 76% sodium taurinate, 21% sodium ditaurinate and 3% sodium tritaurinate, on a molar basis (see 7, lines 4–6) Accordingly, in view of the percent yield of sodium taurinate in the equilibrium state, it is not possible to obtain at least 85% molar yield of taurine using a solution of alkali ditaurinate and alkali tritaurinate, and a subsequent solution of dialkali ditaurinate and trialkali tritaurinate, as here claimed The cyclic process is essential to go beyond said equilibrium yield and obtain the higher yield here claimed.

Id. In response, the patentee amended the language of the claim to recite the alkali taurinate yield to be “at least 80%” and remarked:

The present application discloses and claims a **one-pot process** for the ammonolysis of alkali isethionate to alkali taurinate in the presence of alkali ditaurinate, or alkali tritaurinate, or their mixture and in the presence of an alkali hydroxide to achieve a yield of at least 80%. The yields achieved by the present process are demonstrated in Tables I, II and III. A recycling step is not required to achieve the claimed 80% yield. Thus, there is no missing step in the present process. The present process is distinct from the ammonolysis of alkali isethionate, or alkali ditaurinate, or alkali tritaurinate, wherein alkali taurinate (or taurine) can only be obtained in a yield of no more than 75% in a non-cyclic process, and thus a recycling step of the mother liquor is necessary to achieve a yield of more than 80%.

D.I. 138-1, Ex. 4, Prosecution History of the ’183 Patent, December 23, 2020, Response Under 37 C.F.R. § 1.116 (emphasis in original). The Examiner accepted the patentee’s amendment and the

pending claim issued as independent claim 1 of the '183 patent. D.I. 138-1, Ex. 6, Prosecution History of the '183 Patent, February 17, 2021, Notice of Allowance.

The patentee made “a clear and unmistakable disavowal of scope during prosecution.” *Purdue Pharma L.P.*, 438 F.3d at 1136. The patentee stated, “[t]he present application discloses and claims a one-pot process . . .” and thus surrendered claim scope over non-one-pot processes. *See S.O.I.TEC Silicon on Insulator Techs., S.A. v. MEMC Elec. Materials, Inc.*, 745 F. Supp. 2d 489, 499 n.11 (D. Del. 2010) (“Narrowing a claim in response to a § 112 rejection results in a surrender of the broader subject matter.”) (citation omitted); *see also Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013) (“[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered.”). Vitaworks argues that the patentee’s reference to the “one-pot process” “does not limit the number of reaction vessels in which the process for making taurine claimed in the '183 Patent is carried out. Rather, it addresses the taurine yield of more than 80% that could be achieved in a single, noncyclic process.” D.I. 137 at 45; *see also* D.I. 173 at 18:1-3 (arguing patentee’s use of “one-pot process” was a “shorthand for meaning you don’t have to have a recycling step.”).

Vitaworks’ argument, however, makes no logical sense. By its definition, a “one-pot process” means a process in which a single vessel or single pot is used. *See, e.g.*, D.I. 138-1, Ex. 13, *One-Pot Synthesis*, A Dictionary of Chemical Engineering (Oxford Univ. Press 2014) (defining one-pot synthesis to mean “[a] method of synthesizing organic compounds in a single vessel rather than using a series of vessels or stages.”); D.I. 138-1, Ex. 14, *One-Pot Synthesis*, A Dictionary of Chemistry (Oxford Univ. Press 2016) (defining “one-pot synthesis” to mean “[a] method of synthesizing organic compounds in which the materials are mixed together in a single vessel and

allowed to react, rather than conducting the reaction in a sequence of separate stages.”); D.I. 138-1, Ex. 15, Magne O. Sydnese, *One-Pot Reactions: A Step Towards Greener Chemistry*, 1(3) Current Green Chem. 216 (2014) (“One-pot reactions, cascade reactions, tandem synthesis and multicomponent reactions are all various names of reactions where several bonds are formed in the same reaction flask.”). The Examiner allowed the claims to issue based on the patentee’s amendment and remarks. “Courts must ‘view [] the prosecution history not for . . . applicant’s subjective intent, but as an official record that is created in the knowledge that its audience is not only the patent examining officials and the applicant, but the interested public.’” *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1375 (Fed. Cir. 2005) (quoting *Biogen, Inc. v. Berlex Labs., Inc.*, 318 F.3d 1132, 1139 (Fed. Cir. 2003)). The Court agrees with Defendants that a person of ordinary skill in the art (“POSA”) “reading the prosecution history would understand ‘one-pot’ to carry its ordinary meaning as referring to a process in which all reactants are added to, and all steps occur in, a single vessel.” D.I. 137 at 50; D.I. 173 at 26:5-9.

For the reasons stated above, the patentee’s statement was clear and unmistakable and, thus, the patentee limited the term “a process” to a one-pot process. *See Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) (holding arguments made to convince the examiner of patentability “limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance”).

Vitaworks argues that, if the Court finds that the patentee’s statements regarding “one-pot process” operates as prosecution disclaimer, then the disclaimer should only apply to the ammonolysis step of the claimed invention. D.I. 137 at 63; *see also* D.I. 173 at 13:11-15, 18:22-19:1. Vitaworks notes that, during the prosecution of the ’183 patent, the patentee stated that there

is a one-pot process “*for the ammonolysis of alkali isethionate to alkali taurinate . . .*” D.I. 138-1, Ex. 4 at 5 (emphasis added). Vitaworks, however, fails to consider the other statements made in the same sentence by the patentee that make it clear the disclaimer should apply to the entire claimed process, not just the ammonolysis step. The patentee stated “[*t*]he present application discloses and claims a one-pot process for the ammonolysis of alkali isethionate to alkali taurinate in the presence of alkali ditaurinate, or alkali tritaurinate, or their mixture and in the presence of an alkali hydroxide *to achieve a yield of at least 80%.*” D.I. 138-1, Ex. 4 at 5 (emphasis added). To achieve a yield of at least 80%, the entire claimed process must be practiced. *See* D.I. 110, Ex. E (the ’183 patent) at claim 1 (preamble stating “[a] process for producing alkali taurinate from alkali isethionate in molar yield of at least 80% on the basis of alkali isethionate . . .”). Defendants also argued during oral argument that it is not feasible to limit the disclaimer to the ammonolysis reaction because steps (a) and (b) are “integral” to step (c). D.I. 173 at 173 at 10-19. Step (c) in claim 1 of the ’183 patent states, “subjecting the solution of step (b) to an ammonolysis.” D.I. 110, Ex. E (the ’183 patent) at claim 1. Step (b) requires “adding excess ammonia to the solution of step (a).” *Id.* Thus, the steps must be looked at as an “integrated whole.” D.I. 173 at 23:1.

The parties next dispute whether the patentee’s statements made during the prosecution of the ’183 patent applies to the ’755 patent. The ’755 patent is a parent patent to the ’183 patent. D.I. 137 at 72 n.26; D.I. 173 at 26:20-21. “Where multiple patents derive from the same parent application and share many common terms, we must interpret the claims consistently across all asserted patents.” *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1316 (Fed. Cir. 2015). The Federal Circuit has also found that patentee’s statements made during prosecution applied to the claims of an earlier issued, related patent. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349-50 (Fed. Cir. 2004). When construing claims, statements from the prosecution

of patents in the same family are relevant when the statements “relat[e] to the same subject matter as the claim language at issue in the patent being construed.” *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007). Both patents claim processes “for the production of taurine by the ammonolysis reaction of alkali isethionate in the presence of alkali ditaurinate or alkali tritaurinate, or their mixture,” which is the exact same process that the patentee had limited to a one-pot process during the prosecution of the ’183 patent. D.I. 110, Ex. E (the ’183 patent) at 2:54-57; D.I. 110, Ex. D (the ’755 patent) at 2:51-54. Thus, the patentee’s disclaimer during the prosecution of the ’183 patent applies to the claims of the ’755 patent.

For the reasons stated above, “a process,” as used in the ’183 and ’755 patents, means a “one-pot process.”

4. “a cyclic process”

Claim Term	Plaintiff Vitaworks’ Construction	Defendants’ Construction	The Court’s Construction
A cyclic process (’778 patent at claims 1, 3-6, and 8-9; ’265 patent at claims 1-3, 5-9)	The process recited in the claim performed in a discontinuous, semicontinuous, or continuous manner	A discontinuous, semi-continuous, or continuous process in which the net reaction is ammonium isethionate yields taurine and water	The process recited in the claim performed in a discontinuous, semicontinuous, or continuous manner

The parties agree that “a cyclic process” refers to a process that is discontinuous, semi-continuous, or continuous.⁶ The crux of the dispute is what “cyclic” means.

The Court begins its analysis with the language of the claim itself. Claim 1 of the ’265 patent recites:

⁶ The written descriptions of the ’778 and ’265 patents state that “[t]he process according to the present invention can be carried out discontinuously, semi-continuously, and continuously.” D.I. 110, Ex. B (the ’778 patent) at 6:20-22, Ex. C (the ’265 patent) at 5:46-48.

A cyclic process for producing taurine from ammonium isethionate, comprising:

- (a) adding ammonia to a solution of a mixture of alkali isethionate, alkali ditaurinate, and alkali tritaurinate, and subjecting the solution to an ammonolysis reaction in the presence of one or a combination of two or more catalysts to yield a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate;
- (b) adding ammonium isethionate to the solution of (a) before or after removal of ammonia to yield alkali isethionate and ammonium taurinate;
- (c) decomposing ammonium taurinate by heating and removing ammonia from (b) to obtain a crystalline suspension of taurine in a solution of alkali isethionate, alkali ditaurinate, and alkali tritaurinate; then
- (d) separating taurine by means of solid-liquid separation and to provide a mother liquor containing a mixture of alkali isethionate, alkali ditaurinate, and alkali tritaurinate;
- (e) returning the mother liquor of (d) to (a) for further ammonolysis reaction.

D.I. 110, Ex. C (the '265 patent) at claim 1. The preamble of claim 1 states that the invention is a "cyclic process" for producing taurine from ammonium isethionate. *Id.* Step (e) of claim 1 states "returning the mother liquor of (d) to (a) for further ammonolysis reaction." *Id.* The Court agrees with Vitaworks that a person of ordinary skill in the art would understand what a cyclic process means by just reading the claim, i.e., the process recited in the claims is conducted in a recurring manner that requires recycling the mother liquor from steps (d) to (a) for further use in accordance with the claims. D.I. 137 at 73; *see also* D.I. 173 at 44:8-19. Thus, no further definition of "cyclic" is necessary.

With respect to the '778 patent, Defendants argue that it says "nothing about recycling except for reciting 'cyclic' in the preamble." D.I. 137 at 84. The Court disagrees. Claim 1 of the '778 patent recites:

A cyclic process for producing taurine from ammonium isethionate, comprising:

- (a) adding ammonium isethionate to a solution of a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate to react with alkali taurinates;

(b) removing ammonia from (a) to obtain a solution or crystalline suspension of taurine in a solution of alkali isethionate, alkali ditaurinate, and alkali tritaurinate;

(c) adding art acid or an acidic ion exchanger to adjust the pH of the solution or crystalline suspension of step (b) to a range from 5 to 9;

(d) separating taurine by means of solid-liquid separation to provide a mother liquor containing alkali isethionate, alkali ditaurinate, and alkali tritaurinate; and

(e) adding ammonia or ammonium hydroxide to the mother liquor of step (d) and subjecting the solution to an ammonolysis reaction to produce a solution of a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate.

D.I. 110, Ex. B (the '778 patent) at claim 1. Steps (a) and (e) of claim 1 recite the same solution mixture: "a solution of a mixture of alkali taurinate, alkali ditaurinate, and alkali tritaurinate." *Id.* A person of ordinary skill in the art would read these claims and know to take the solution recited in step (e) and use it in step (a). *See also* D.I. 173 at 46:3-7. Thus, the Court finds the '778 patent recites a cyclic process.

Defendants also argue that Vitaworks' proposed construction renders the term "cyclic" to mean nothing because Vitaworks proposes the same construction for "a cyclic process" in the '265 and '778 patents as it does for "a process" in the '258 patent. D.I. 137 at 78. The Court disagrees with Defendants' argument. Vitaworks' proposed construction states, "the process recited in the claim . . ." and, thus, accounts for the cyclic process recited in the claimed process.

Defendants' proposed construction improperly seeks to import a "net reaction" limitation that is not required by the disclosures in the '265 and '778 patents. Defendants cite to the following language in the written description to support their construction:

The net reaction of the cyclic process is:



D.I. 110, Ex. C (the '265 patent) at 4:61-65, Ex. B (the '778 patent) at 5:32-35. The graphics in the patent shown above can be translated to mean the net reaction of the cyclic process is ammonium isethionate yields taurine and water. *See id.*; *see also* D.I. 137 at 78-79. However, the written description does not define or limit “cyclic” to any net reaction. D.I. 137 at 81; D.I. 173 at 50:9-11. It is bedrock principle that “it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co.*, 358 F.3d at 913 (citation omitted). Here, there is no clear indication in the intrinsic record that the term “cyclic process” to be defined in terms of its net reaction. Thus, a “cyclic process,” as used in the '265 and '778 patents, means “the process recited in the claim performed in a discontinuous, semicontinuous, or continuous manner.”

IV. CONCLUSION

For the reasons explained above, the Court adopts the constructions described herein. The Court will issue an Order consistent with this Memorandum Opinion.